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ABSTRACT

An examination of the dynamics of academic failure is presented in this monograph in the form of an annotated bibliography of current literature. The writings cited offer a cross-section of research on what factors affect students' choices of adaptive or maladaptive behavior patterns in the classroom and in relation to their peers. Section one of the annotations describes the dynamics of failure-avoidance behaviors and their underlying causes and consequences. The second section presents studies that analyze why students who were judged to be equal in ability respond differently to failure or challenge situations. In the third section, a research-based model demonstrates the relationship between achievement goals and achievement behavior. Following this analysis, educational interventions and classroom practices that foster adaptive and maladaptive patterns are examined. A summary discusses the dynamics of failure-avoidance and acceptance and achievement goals and behavior, and considers the educational implications of the problem. A bibliography is included. (JD)

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AN ANNOTATED BIBLIOGRAPHY OF THE LITERATURE CONCERNING STUDENTS' ADAPTIVE AND MALADAPTIVE BEHAVIOR PATTERNS IN RESPONSE TO FAILURE IN ACHIEVEMENT SITUATIONS

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INTRODUCTION

Gardner (1961) challenged America's educational system to reconsider its obligation to provide common access to equal and quality education for all its citizens:

> How can we provide opportunities and rewards for individuals of every degree of ability so that individuals at every level will realize their full potentialities, perform at their best and harbor no other resentment toward any other level? (p. 115)

According to the research reviewed, Gardner's question was neither dismissed nor considered naive. On the contrary, researchers and educators alike continued to grapple with his challenging proposal. Yet despite their concerns, evidence confirmed that very early in the schooling process children learned that some of their group succeeded and some failed. Schools where learning took place were also places where children were publicly evaluated either positively or negatively. With each year in school they soon realized that to succeed they had to perform better than others in their own grouping. When their teachers and peers recognized their successes, their self-esteem was reaffirmed. But when children failed at a task or couldn't perform as well as others, they found that their sense of self was diminished. As a result, their early eagerness to learn was now replaced by the fear of failure and the desire for the rewards of success.

Covington and Beery (1976) forcefully argued that self-worth and ability had become so interwoven that individuals' achievements determined self-valuations (p. 6). This detrimental linkage (ability=worth) extended to the classroom with the results that students' competencies and perceived self-esteem became dependent upon their abilities to succeed. And if they were uncertain about being able to

succeed, they then needed to avoid the implications of failure (p. 7). Moreover, when failure occurred and others' disapproval placed them in jeopardy, their primary concern regardless of age was to protect their sense of worth (Harari & Covington, 1981; Nicholls, 1976). In fact, students unable to perform successfully were shown to be cut off from a major source of self-esteem (Covington, 1984b, p. 8). So in effect, the classroom as a public, evaluative system had placed some of the students at risk (p. 23). Since this competitive structure held a fixed number of rewards (Ames & Ames, 1984) and strongly emphasized ability/performance outcomes, success experiences were ensured for some students, but the likelihood of failure increased for others (Covington, 1984a; Covington & Beery, 1976).

STATEMENT OF THE PROBLEM

"Self-worth theory," according to Covington (1984b),"assumes that much of student behavior is best understood in terms of attempts to sustain a reputation of competency and hence worth" (p. 11). Protection of this self-image of competency thus required a repertoire of strategies which students employed to respond to success and failure in learning situations. Students' divergent responses indicated that individuals took different pieces of information from each achievement situation and interpreted and processed the information accordingly. Set in motion, therefore, were adaptive ("mastery-oriented") or maladaptive ("helpless") motivational processes that affected learning.

PURPOSE OF THE STUDY

With Gardner's (1961) question in mind, it would seem important to examine research related to the dynamics of failure and to determine which factors affected students' choices of adaptive or maladaptive behavior patterns.

According to Covington (1984a), self-worth theory provided a perspective from which to analyze the dynamics of failure. It assumed that individuals acted purposively to foster a positive self-identity and thereby gained social acceptance and approval. Thus, negative self-ascriptions were to be avoided at all costs. This nurturance of a positive self-identity he referred to as "self-worth motive" (p. 78). Regardless of appearances, therefore, individuals' actions were considered to be motivated and intended to maximize a positive sense of self.

In school situations, though, teachers unaware of the complex workings of motivational processes could misinterpret and make faulty assumptions about students' behaviors and reactions in achievement situations. As a result, decisions regarding evaluation, curricula, and classroom practices would be affected. Thus, an understanding of the dynamics of failure could result in more effective decision-making and educational practices that fostered adaptive behavior patterns in students.

ORGANIZATION OF THE STUDY

The introduction established a self-worth perspective from which to examine the literature. Section one of the annotations described the dynamics of failure-avoidance behaviors, their underlying causes and consequences. Studies documented the self-serving strategies students employed to avoid the implications of failure, the role of effort and excuses in success and failure situations, as well as the potential conflict of values between teachers and students in relation to effort expenditure.

Section two presented the dynamics of failure-acceptance behaviors (learned helplessness), their underlying causes and consequences. Each of the studies analyzed why students who were judged to be equal in ability responded

differentially to failure or challenge situations. Adaptive and maladaptive motivational patterns were defined in respect to those findings.

Section three presented a research-based model demonstrating the relationship between achievement goals and achievement behavior. Following this analysis educational interventions and classroom practices that fostered adaptive and maladaptive patterns were examined.

Within each of the three sections of this paper the annotations were arranged alphabetically by the authors' last names.

LIMITATIONS OF THE STUDY

A profusion of research existed concerning adaptive and maladaptive motivational processes and their respective roles in achievement behavior. The majority of studies reviewed contained extensive bibliographies and notes which recommended the reader pursue other resources that offered additional questions and solutions. Time limitation, though, restricted an investigation of all the available data.

GLOSSARY

ability: "the actual power present in an organism to carry to completion any given act or to make adjustments successfully, the response being subject to voluntary control, and dependent on the motivation of the subject to do his best performance." (Good, 1973, p. 1)

achievement: "accomplishment or proficiency of performance in a given skill or body of knowledge." (Good, 1973, p. 7)

achievement motivation: "a combination of psychological forces which initiate, direct, and sustain behavior toward successful attainment of some goal which provides a sense of significance..." (Good, 1973, p. 375)

adaptive motivational patterns: "those (patterns) that promote the establishment, maintenance, and attainment of personally challenging and personally valued achievement goals." (Dweck, 1986, p. 1040)

attribution theory: "...study of the kinds of explanations people give for their successes and failures and the consequences of their doing so." (Covington & Beery, 1976, p. 67)

effort: "the mental or physical energy exerted to achieve an end or to overcome any kind of obstacles." (Good, 1973, p. 207)

entity theory of intelligence: "...belief that intelligence is a rather stable global trait that can be judged to be adequate or inadequate. That

is, this trait or entity is displayed in one's performance, and the judgments of that performance can indicate whether one is or is not intelligent." (Dweck & Elliott, 1983, p. 654)

expectancy: "a term descriptive of a predicted level of success..." (Good, 1973, p. 226)

incremental theory of intelligence: "...the belief that intellectual competence consists of a repertoire of skills that can be endlessly expanded through one's efforts." (Dweck & Elliott, 1983, p. 654)

learned helplessness: "the learning or perception of independence between the emitted response of the organism and presentation and/or withdrawal of aversive events." (Seligman et al., 1968, p. 258)

learning goal: "seeking to acquire knowledge or skills, to master or understand something new." (Dweck & Elliott, 1983, p. 645)

level of aspiration: "person's self-expectations" (Hoppe's definition in Covington & Beery, 1976, p. 19)

maladaptive behavior: "a pattern of behavior which does not lead to the satisfaction one desires." (Good, 1973, p. 59)

maladaptive motivational patterns: "(patterns) associated with a failure to establish reasonable, valued goals, to maintain effective striving toward those goals or, ultimately, to attain valued goals that are within one's reach." (Dweck, 1986, p. 1040)

metacognitive skills: "the regulatory processes - that include such activities as task analysis, strategy planning and performance monitoring." (Dweck & Elliott, 1983, p. 644)

motive: "an internal motivation, such as an intention to act or a physiological drive, as distinguished from an incentive, which is external." (Good, 1973, p. 375)

orthogonal: "descriptive of two tests or sets of data when they are uncorrelated." (Good, 1973, p. 403)

performance goal: "to obtain favorable judgments of one's competence, and to avoid unfavorable judgments of one's competence." (Dweck & Elliott, 1983, p. 645)

potentiality: "a capacity to act as originative source of change in another thing, or to be acted upon and change..." (Good, 1973, p. 431)

rationalization: "a defense mechanism... in which an individual creates false but plausible explanations to justify his behavior." (Covington & Beery, 1976, p. 47)

self-esteem: "the judgment and attitude an individual holds toward himself." (Good, 1973, p. 525)

self-worth: "individual's evaluative appraisal of himself." (Covington & Beery, 1976, p. 5)

strategic self-management: "...altering problem states so that a reasonable match is created between task difficulty and sufficiency of one's resources." (Covington, 1983, pp. 155-156)

strategic thinking: "...involves formulating a problem or task in workable terms, establishing work priorities, and the capacity to alter tactics as unexpected obstacles or new information change the character of the task itself...the self-conscious planning, organizing, and orchestration of one's personal resources such as ability." (Covington, 1983, pp. 154-155)

strategy: "the particular approach, tactic, or method one uses in attempting to achieve a goal or solve a problem." (Anderson & Jennings, 1980, p. 394)

ANNOTATIONS

DYNAMICS OF FAILURE - AVOIDANCE: CAUSES AND CONSEQUENCES

Ames C., and Ames R. Goal Structures and motivation. The Elementary School Journal, 1984, 85(1), 39-52.

Ames and Ames researched motivational processes from both student and teacher perspective in three goal/reward structures: competitive, cooperative, and individualistic. They examined each goal structure's influence on ability and effort perceptions. A competitive goal structure's attributional focus was ability in which information about one's own performance in relation to others' performances was highly significant, especially when there were scarce rewards (e.g., grading on the curve, ability groupings, verbal comparisons). Cooperative and individualistic goal structures, however, focused more on effort. Cooperative structures relied upon information about how the group was doing, its goals, shared effort, and responsibility. Concern centered upon not only personal achievement but also group outcomes. They found successful group outcomes positively affected low achievers' self-perceptions, whereas group failure caused negative appraisals in high performers. A noncompetitive, individualistic structure concentrated on self-mastery, independent goals, and issues of performance change and improvement over time. The authors presented a meta analyses of studies that verified failure definitely affected low achievers more severely in competitive settings than in non-competitive structures. Moreover, they also documented that within each of the goal structures different self-evaluations took place. They showed how the goal structure significantly determined students' self-perceptions and assessments of others as equal or not. Furthermore, they demonstrated how teachers operated differently within each of the structures, for they defined their own perceptions and evaluations of students according to ability or effort information. A value-belief attribution model illustrated how teachers processed and interpreted information about students to fit the teachers' own belief systems as well as to protect their sense of worth.

Beery, R. G. Fear of failure in the student experience. Personnel and Guidance Journal, 1975, 54, 190-203.

Case histories of three hypothetical college students illustrated the common basic motive of failure avoidance. In the context of aspiration level experiments, Beery considered extremes of unrealistic goal-setting strategies and failure-avoidant strategies, such as underachieving, overstriving, and reducing personal investment through excuses, procrastination, work blockages, test anxiety, and inefficient study habits. The author considered the rationale behind various strategies to prevent the experience of failure and concluded defensive strategies were necessary for individuals who had come to believe that successful performances reflected the value of their self-worth. As a result, failure situations measured against students' subjective standards or public evaluative standards in competitive situations required such defensive, coping strategies to defuse limited ability ascriptions and to protect the threatened sense of self.

Covington, M. V., and R. G. Beery. Self-Worth and School Learning. New York: Holt, Rinehart, and Winston, 1976.

Covington incorporated the results of his research and extensive literature review with Beery's theoretical perspectives on the fear of failure among students who chose maladaptive responses. Central to this model was the belief that self-worth was an individual's evaluative self-perception which demanded protection from all threat. Covington and Beery defined the process of debilitation when one's competency or level of achievement was in question. Illustrated convincingly were the ingenious failure-avoiding strategies individuals devised so as to reduce any possible threat to their self-worth. These defensive strategies often led to specific maladaptive achievement patterns, such as underachieving and overstriving. Dynamics of the fear of failure were examined in view of attribution theory, and questions about differential responses to success and failure were explored. Special attention was given to the place of effort in the dynamic in which a direct conflict took place between students' personal values and teachers' values. To avoid shame and public humiliation the student must try, or at least appear to try, to minimize teacher punishment, "but not too energetically and with sufficient excuses handy" (p. 84). The authors identified scarcity of rewards in the classroom, excessive teacher praise, teacher's expectation of effort, and self-defeating standards in competitive classrooms among the reinforcers of internalized defeat. Offered as an alternative were success-oriented learning structures which fostered intellectual growth in all students of all ability levels and concomitantly reduced any threat to self-worth.

Covington, Martin V. "The Motive for Self-Worth." Research on Motivation in Education: Student Motivation. Ed. Russell Ames and Carole Ames. Orlando, Florida: Academic Press, Inc., 1984 (a). 1:77-113.

An update on the motive for self-worth as linked to school achievement was presented. Covington reviewed and expanded upon the implications of the dynamics of failure-avoiding behaviors and their consequences. Furthermore, data were presented that supported various instructional guidelines, such as establishing rewards for all students in the classroom; setting up classroom structures which Covington defined as "entity" paradigms (e.g., self-competition, cooperative peer learning, and contract learning); and most important, shifting the emphasis from ability to effort as the causes for success or failure performance outcomes. Moreover, the author presented detailed analyses of instructional research on a mastery learning paradigm to provide a motivationally based model for curriculum development and evaluation. The research indicated that the alliance between ability and performance linked to self-worth resulted in dysfunctional and debilitating behaviors. He urged educators to promote theories of intelligence which ensured students became strategic learners who accepted challenges and who sought intrinsic involvement in their work. The goal to increase self-competence would then replace the goal to receive favorable external judgments or to avoid negative judgments.

Covington, M. V. Self-worth theory of achievement motivation: Findings and implications. The Elementary School Journal, 1984(b), 85(1), 5-20.

Covington described the self-worth theory of achievement motivation within the context of Atkinson's learned-drive theory and Weiner's cognitive attribution theory. The research indicated that older children and adults perceived ability as the dominant factor in achievement. Level of ability, therefore, determined personal worth which was to be safeguarded at all costs. Conversely, research also documented that young children considered ability and effort synonymous since both traits bolstered competency. The author examined reasons to account for this shift in values from an early "effort/ability equivalency" to a system that later rewarded and favored ability more, and one in which effort became a threat. To settle this conflict between the sources of worth, many individuals who doubted their own abilities chose failure-avoiding strategies which inevitably led them to failure itself. Covington described failure-accepting individuals as willing to endure any punishment in the classroom in order to keep revelations of their true abilities uncertain. Thus, students exerted minimal effort to avoid teacher punishment and displeasure, but they also had to be sure not to try too hard and thereby expose themselves as incompetent. High effort followed by failure caused humiliation and shame along with decreases in perceived ability. Classroom interventions recommended were noncompetitive learning structures, mastery and cooperative learning models, along with student recognition and appropriate interpretation of failure situations in the context in which learning for its own sake was the goal.

Covington, M.V., and Omelich, C.L. Are causal attributions causal? A path analysis of the cognitive model of achievement motivation. Journal of Personality and Social Psychology, 1979(a), 37(9), 1487-1504.

Covington and Omelich asked, "Do achievement motivation groups differ in their affective reactions, expectancy of future success, and subsequent test performances as a consequence of attributions made for a previous test outcome?" Path analysis techniques were employed to test their data. Within a mastery-learning structure, college students (N=206) who were not satisfied with the outcome of their first test had the option to take a second test after additional study. Students received immediate feedback on their tests and then indicated causal ascriptions for failure to low effort, low ability, task difficulty, or bad luck along with degree of affective reaction (shame), and predicted grade expectancy on retest. The results suggested expectancy for success and retest performance were not dependent on attributions for previous failure, while degree of shame was subject to ability and effort cognitions. Thus, the study determined that attributions did not cause specific performances but rather were reactions to failure, and as such were self-protective of ability.

Covington, M.V. and Omelich, C.L. Effort: The double-edged sword in school achievement. Journal of Educational Psychology, 1979(b), 71(2), 169-182.

Covington and Omelich cited previous research that indicated teachers rewarded more and punished less students who tried, regardless of success or failure outcomes, than students who did not try. Evidence affirmed ample teacher rewards were given for effort. Why then, they queried, did students espouse low effort in learning situations choosing to study little, becoming passive, indifferent, and failure accepting? An explanation derived from self-worth theory suggested that students needed to maintain a self-image of ability at all costs; therefore, they would not expend effort when risking failure, for to do so would invite disclosures of inability, which in turn would reduce estimates of self-worth. College students (N=360) affectively reacted to hypothetical test failures under various effort conditions with and without self-serving excuses. Results demonstrated greatest shame was experienced under conditions of high effort/failure; conversely, least shame occurred when students studied little with excuses readily available to offset the effects of high effort in a failure situation. Corroborated was the fact that failures which elicited the least student shame (low effort/failure) invited the greatest teacher punishment. Likewise, high effort/failure situations which were most shameful to students were the very situations encouraged and rewarded by teachers. The authors examined strategies which would possibly reduce conflict of values between students and teachers illustrated in this study.

Covington, M.V., and Omelich, C.L. It's best to be able and virtuous too: Student and teacher evaluative responses to successful effort. Journal of Educational Psychology, 1979(c), 71(5), 688-700.

This study confirmed that students preferred to exert low effort in failure situations since ascriptions to ability remained ambiguous, and consequently less shame was experienced. Furthermore, Covington and Omelich documented and reiterated that when such conditions existed a conflict of values between students and teachers was activated and greater teacher punishment resulted. This study examined the role of effort expenditure and the teacher-students' value relationship in success conditions. College students (N=360) rated their affective reactions to hypothetical test successes under conditions of high and low effort expenditure. Assuming the role of teachers, students then evaluated hypothetical students under these same success conditions. Results indicated that student pride and personal satisfaction were greatest in high effort/ability situations. The data likewise established that students chose a mode of achievement in which they were perceived as being able; effort, albeit an important factor, was not considered to be primary even though success followed by effort resulted in greater teacher reward and a rise in students' internalized sense of pride. Nevertheless, evidence acknowledged that students wanted to be recognized as able as well as motivated. Within success situations then the researchers affirmed that students and teachers shared a common value: achievement through effort.

Covington, M.V., and Omelich, C.L. As failures mount: Affective and cognitive consequences of ability demotion in the classroom. Journal of Educational Psychology, 1981, 73(6), 796-808.

From the perspective of self-worth theory, Covington and Omelich investigated the dynamics of repeated failure in college students in relationship to effort-ability cognitions, level of shame experienced, and future expectancy of success. They speculated what would happen as failure situations increased and opportunities to ascribe failure to outside sources decreased. Within a mastery learning structure, college students (N=80) received grade-equivalent feedback on tests following units of study and then rated their reactions to success or failure. Those who experienced successive failure were requested to indicate causal attributions, such as lack of ability or skill, task difficulty, low effort, or bad luck, along with degree of shame and future expectancy of success. The researchers inquired whether low self-concept of ability students more readily ascribed failure to inability. Moreover, they also considered if success compensated for previous failures and modified the students' self-perceptions of inability and raised levels of personal satisfaction. Covington and Omelich concluded that as failures increased and external excuses for failure were unavailable, students were forced to acknowledge inability which resulted in growing distress and hopelessness. Their findings gave empirical support to studies on learned helplessness which verified that individual despair followed acceptance of inability as the major source of failure. Furthermore, this study demonstrated that inaction was perceived as self-protective and deflected low ability ascriptions. Even though the sense of helplessness invited failure, students expected excuses to mitigate teacher punishment.

Covington, M.V., and Omelich, C.L. Controversies or consistencies? A reply to Brown and Weiner. Journal of Educational Psychology, 1984, 76(1), 159-168.

In a response to cognitive theorists, Brown and Weiner, Covington and Omelich attempted to clarify areas of apparent conflict and presented a broad synthesis of self-worth theory of achievement motivation. They agreed that focus on effort (Weiner and Brown's emphasis) was important but not of primary concern, for students must not only try hard, but they must also protect their sense of competency (self-worth theory). High effort (which may relieve guilt) followed by failure led to a demotion of ability and subsequent humiliation and shame. Thus, they concluded student effort was a "double-edged sword" eliciting humiliation since inability had been disclosed as well as reducing guilt given sufficient evidence of effort. Accordingly, a potential conflict between teacher and students regarding the status of effort and ability was revealed. Moreover, their studies documented that shame followed from both ability demotion and high effort/failure conditions. Hence, for some students effort was clearly not a choice protective of their sense of competency. The authors suggested their own self-worth paradigm and Weiner's attribution paradigm were in fact quite compatible since they both defined coping processes that occurred in varying phases along a continuum. They cited the example of success-oriented individuals beginning to experience doubts about their ability and to avoid being perceived as incompetent devised failure-avoiding strategies. In a school environment students could survive only so long with excuses and little effort necessitating their eventual move into a failure-accepting mode in which low-ability status was recognized. Their research verified that at that juncture effort replaced ability as the major defensive strategy to protect self.

Covington, M.V., and Omelich, C.L. Ability and effort valuation among failure-avoiding and failure-accepting students. Journal of Educational Psychology, 1985, 77(4), 446-459.

This study proposed to resolve "apparent inconsistencies" between self-worth theory and Weiner's attributional model. Previous research had verified that in failure greater shame was experienced under high-effort (study) conditions (self-worth theory). Conversely, the attributional model determined that failure elicited increased shame resulting from low-effort expenditure. In this study they attempted to resolve those conflicts and observed that learners' sources of self-esteem, ability or effort cognitions, along with their adoption of a failure-avoiding or failure-accepting mode, determined how they coped with achievement demands. Accordingly, the authors recognized that in failure situations both ability and effort cognitions caused quite different shame reactions depending upon whether humiliation or guilt was under investigation. Equally important were the individuals' perceptions of their own ability status (high or low/ fixed or moveable). Moreover, this study attempted to demonstrate the validity of both modes: failure-avoidance (low ability/uncertainty) and failure-acceptance (low ability/certainty). The authors, therefore, questioned what role ability/effort ascriptions had played for individuals who were either certain or uncertain of low-ability status. Their results suggested that such inconsistencies between the two theories were resolved. The authors concluded that effort would not only increase shame, but it would likewise reduce guilt depending upon individuals' affective responses (certainty/uncertainty of ability status).

Covington, M.V., Spratt, M.F., and Omelich, C.L. Is effort enough, or does diligence count too? Student and teacher reactions to effort stability in failure. Journal of Educational Psychology, 1980, 72(6), 717-729.

Covington and colleagues examined several hypotheses in relation to effort stability. They questioned whether students with a history of consistent effort were evaluated differently from students whose study patterns were erratic. Moreover, they investigated whether such students with unpredictable study patterns would experience less shame despite failure. They speculated such inconsistent patterns would serve as defensive strategies to deflect from actual ability ascriptions in failure situations. College students (N=364) rated eight hypothetical test failure situations along two dimensions: amount of overall effort and the stability/instability of effort. One half of the subjects also assumed the role of teachers evaluating failing students accordingly. Results indicated that variations in effort patterns did not substantially affect the existing dilemma for students who must not expend too much effort in order to avoid disclosure of low ability, but yet they must exert just enough effort to avoid teacher punishment. The fact that students consented to being labeled "lazy," "apathetic," or "unmotivated" reinforced how crucial ability perceptions were to self-competency and the ever present threat of effort to students' self-worth. Nevertheless, the researchers determined that teacher judgment was influenced by effort expenditure suggesting evaluative feedback was more complex than generally assumed. Teachers' and students' perceptions were discovered to be at variance in that the teachers encouraged the very behaviors (effort expenditure) that students perceived would expose their inabilities. Furthermore, the study documented the presence of an intrapersonal conflict in which students chose teacher punishment and guilt rather than risk the public humiliation of incompetency.

Harari, O., and Covington, M.V. Reactions to achievement behavior from a teacher and student perspective: A developmental analysis. American Educational Research Journal, 1981, 18(1), 15-28.

Students from first grade through college (N=168) evaluated the achievement performance and ability levels of various hypothetical students from the perspective of teachers as well as students. Interestingly, the data indicated that students' perceptions of teacher evaluation methods of classroom achievement differed from the students' own understandings of the relationships that existed among effort, ability, and performance outcomes. Students when role playing as teachers believed effort to be more critical to evaluation and rewards than ability. On the other hand, students themselves preferred to be recognized as able. Moreover, the data clearly showed different age level responses to effort expenditure. Younger children valued effort, whereas as had been previously verified, college students viewed effort as a potential threat since high effort/failure conditions invited suspicions of lower ability. Harari and Covington further examined reasons for this shift. Interview responses from the participants implied younger children viewed ability as not fixed but fluid and dependent on effort. In effect, they had assimilated teachers-parents valuation of hard work; thus, they perceived ability and effort as equivalent. The researchers substantiated that young children accepted effort and ability as equal; by the sixth grade, however, students no longer believed effort actually affected ability. From this pre-adolescent perspective, ability was regarded as a stable factor which effort could do little to modify. Data verified an increasing devaluation of effort with increasing age. Harari and Covington recommended further research into explanations for this gradual devaluation and negative view of effort (study).

Nicholls, J.G. Effort is virtuous, but it's better to have ability: Evaluative responses to perceptions of effort and ability. Journal of Research in Personality, 1976, 10, 306-315.

This study addressed cognitive theorists' concerns that perceived effort was more important than ability when attributions were offered for successes and failures. Nicholls, however, suggested ability, not effort, to be more salient and speculated that researchers' questions had focused subjects' attention on immediate outcomes rather than on outcomes for future performances. Testing this hypothesis he rephrased questions to reflect the issue of future performance. College students (N=148) responded to a short questionnaire on imagined task outcomes. When subjects were asked when they would experience pride or shame, they associated effort in success conditions with increase in pride, whereas in failure situations effort reduced shame. Conversely, when asked what type of person they would like to be, they chose high ability/low effort regardless of outcome. In addition, Nicholls verified that individual respondents' answers to questions reflected their high or low self-concept of ability with low self-concept students maintaining self-esteem in spite of poor performances by depending on effort rewards.

Schlenker, B.R. Self-presentation: Managing the impression of consistency when reality interferes with self-enhancement. Journal of Personality and Social Psychology, 1975, 32(6), 1030-1037.

Schlenker discusssed the differences between consistency and incentive theories. According to consistency theories, individuals were motivated to preserve a balance between their self-perceptions and their behaviors, as well as others' reactions to their behaviors. Tensions resulted when any of the factors produced inconsistencies, and individuals consequently needed to reestablish internal and external consistency. On the other hand, incentive theories assumed that individuals would do anything to maximize self-esteem. In effect, individuals presented themselves in such as way as to ensure enhanced levels of self-esteem which would protect them from situations and events that diminished self and caused social disapproval. Schlenker pointed out specific studies had yet to prove superiority of one pespective over the other, but the incentive model had merited more support. In this study the author sought to determine the conditions necessary for individuals' self-perceptions to remain consistent with their self-presentations. College students (N=120) believed they would participate in a group task; half the students understood the results of their individual performances would be made public, while the othe half were told their evaluations would remain anonymous. Bogus feedback from previous tests was presented to the participants to manipulate their expectations on a future task. Some were told they would do very well, poorly, or were told nothing at all. Prior to the group tasks all had the opportunity to communicate personal information about themselves with other group members. The results supported the incentive model. Those students who expected the group to be made aware of their performance scores cautiously presented themselves claiming no more competency than would be validated on their future tasks. However, those students under anonymous conditions not dependent upon future "checks" portrayed themselves without caution for public approval. Schlenker noted the significance of individuals who chose to ignore "secret information" (known only to the individuals themselves) when they decided how to present themselves to an audience. Morever, the study verified that individuals desired to be seen in the most favorable conditions possible yet would adopt a persona acceptable to the public whenever necessary.

DYNAMICS OF FAILURE-ACCEPTANCE
CAUSES AND CONSEQUENCES

Abramson, L.Y., Seilgman, M.E.P., and Teasdale, J.D. Learned helplessness in humans: Critique and reformulation. Journal of Abnormal Psychology, 1978, 87(1), 49-74.

Abramson, Seligman, and Teasdale criticized and corrected inadequacies of the former learned helplessness theory. Experiments had shown that a variety of organisms exhibited debilitating behavior following events that were perceived uncontrollable. Their reformulation argued that when individuals decided outcomes and responses were independent, they then made attributions for the causes. These attributions became predictive of future expectations for lack of control. If individuals expected actions and outcomes to continue operating independently, they would display symptoms of helplessness. With the addition of the attributional framework, these researchers argued that individuals attributed causes for their inability to control outcomes along three dimensions: internal-external; stable-unstable; and global-specific. The authors demonstrated that attributions to internal factors caused greater loss of self-esteem than attributions to external factors. Attributions to stable factors produced deficits that occurred over long periods of time and were recurrent. And if global attributions were made, individuals generalized the outcome of one specific failure situation to all new situations. Thus, attributing failure to internal, stable, and global factors was predictive of far-reaching depression or learned helplessness. Strategies and tactics implied by the model centered on training individuals to change attributions and to expect attainable outcomes to be controllable.

Diener, C.I. and Dweck, C.S. An analysis of learned helplessness: Continuous changes in performance, strategy, and achievement cognitions following failure. Journal of Personality and Social Psychology, 1978, 36(5), 451-462.

Diener and Dweck conducted two studies to explore the differences between mastery-oriented and helpless children's self-monitoring of failure situations. The children were trained on a discrimination learning task. In one study, the subjects were asked to verbalize what they were thinking about while they were working. The researchers considered changes in the problem-solving strategies of each group and examined the precise differences in their responses (along with the frequency and timing) following performance failure. In the other study, monitoring of strategy changes during failure occurred without any verbalizations. The results revealed that the emphasis of past research on individuals' choices of causal attributions which in turn predicted differences among their goal orientations needed to be reexamined and modified. These studies indicated that helpless children attributed the causes of their failures to stable factors, such as lack of ability (e.g., not having a good memory) or loss of ability (e.g., confusion or inability to think); on the other hand, mastery-oriented children expressed few reasons for failure. Instead, they concentrated on exploring remedies to find solutions to their problems assisted by self-instructions and self-monitoring. Moreover, it appeared that mastery-oriented children did not perceive themselves as having failed, for when the test examiner gave them the feedback "wrong", they responded as if this were only information necessitating additional strategies and more time to pursue a solution. Accordingly, this was not negative feedback about themselves nor predictive of future failure. Diener and Dweck pointed out that although the mastery-oriented group did not tend to make explicit attributions in these studies, attributions would likely have resulted with additional failures and more time. Also, they recommended that helpless children benefited not only from attribution retraining (already established in previous study, 1975) but also from modeling verbal behavior which focused their attention to the task as they monitored themselves for statements of negative affect and solution irrelevant statements.

Diener, C.I. and Dweck, C.S. An analysis of learned helplessness: II. The processing of success. Journal of Personality and Social Psychology, 1980, 39(5), 940-952.

Studies were reviewed which highlighted differences between helpless and mastery-oriented children's responses to failure conditions. In this study Diener and Dweck concentrated on how each group processed success. Children (N=112) were classified as either helpless or mastery-oriented. Half of the group answered questions about their performances following success conditions and then again after subsequent failure experiences. The other half of the group responded after the success and failure tasks were completed with no interruptions. The results affirmed there were no differences between helpless and mastery-oriented children's rating performances within success conditions. Yet compared to mastery-oriented children, the helpless children continued to devalue their present performances and were pessimistic about future performances. This tendency toward negative affect even displayed itself outside negative outcome conditions. Helpless children tended not to acknowledge their actual successes, and in fact underestimated their own performances; moreover, they felt most children would do as well or better on the tasks as they had suggesting such successes were not very significant nor indicative of ability. Furthermore, helpless children did not see any connection between their present successes and possible future successes. Then within failure conditions these same students evaluated themselves even lower and also expected fewer successes. The authors analyzed these differences in responses and concurred that helpless children seemed to assess their own value and performance levels according to failure information discounting previous success experiences. Two-thirds of the helpless groups stated they would not be able to complete successfully problems they had previously mastered, whereas all of the mastery group believed they could once again achieve successful completion of the tasks. While helpless children discounted their successes, mastery-oriented children disallowed their failures. The authors concluded with arguments to retrain the helpless oriented students to attribute success to more stable factors such as ability.

Dweck C.S. The role of expectations and attributions in the alleviation of learned helplessness. Journal of Personality and Social Psychology, 1975, 31(4), 674-685.

Dweck documented research citing helpless children's performances deteriorated with presentations of failure, for they perceived no connection between their own behavior and the event which they deemed beyond their control. The author hypothesized that if helpless children's perceptions of the relationship between their responses and failure could be altered and if alternative explanations for causes of failure could be presented, then adaptive rather than maladaptive responses to failure would become inevitable. Hence, attribution retraining focused on teaching children to take responsibility for their failures. Likewise, causal attributions to effort would increase task persistence in failure situations. Twelve children identified as extremely "helpless" (i.e., "characterized by expectation of failure and deterioration performance in the face of failure") worked on problems for 25 sessions in one of two treatments, Success-Only or Attribution Retraining. Results indicated that students in Attribution Retraining treatment in which an experimenter verbalized aloud the cause of their failures as due to effort showed the largest gains. Following training, failure operated as a cue to increase effort. Five of the six subjects displayed superior performance following failure. In fact three of the subjects verbalized the same attributions that had been modeled in the training session during actual testing. While subjects in the Success-Only treatment progressed in their problem-solving on success only days, their performances became increasingly debilitated following failure. Dweck recommended that programmed learning and other behavior modifiers' programs be examined in respect to teaching students to deal with failure constructively.

Dweck, C.S. "Intrinsic Motivation, Perceived Control, and Self-evaluation Maintenance: An Achievement Goal Analysis." Research on Motivation in Education: The Classroom Milieu. Ed. Russell E. Ames and Carole Ames. Orlando, Florida: Academic Press, Inc., 1985. 2:289-305.

Two classes of achievement goals were considered: learning goals structure in which students persisted on challenging tasks for the sake of increasing competence in various skill areas and performance goals in which students sought external, positive judgments (necessitating the need to also avoid negative judgments) of their task performances. Dweck reviewed the research concerning students' orientations toward either framework, and the achievement behavior patterns related to both structures in success and failure situations. The author also explained how incremental and entity theories of intelligence predicted goal choices.

Dweck, C.S. Motivational processes affecting learning. American Psychologist, 1986, 41(10), 1040-1048.

Within a social-cognitive framework, Dweck characterized adaptive and maladaptive motivational patterns by contrasting how different goal orientations (performance or learning) fostered different behavior patterns (helpless or mastery). This research-based model of motivational processes suggested that in each achievement situation individuals chose specific goals based on their operational theories of intelligence which in turn determined the achievement pattern they displayed. Not only children's cognitive performances were affected but also their personal interpretations of successes and failures. Thus, the attributions that they made determined whether corrective strategies were employed or rejected. Those strategies which fostered adaptive patterns in students indicated the desirable effects of replacing a performance goal environment (frequent praise and success, challenge avoiding, judgment seeking, low persistence) with a learning goal orientation (stable confidence, challenge seeking, persistence, mastery through effort). From the conclusions of combined research, Dweck also presented a compelling explanation for achievement discrepancies between high ability level boys and girls in mathematics. She demonstrated that maladaptive motivational patterns were not restricted to low-achieving, failure-avoiding students, but high achievers as well, particularly bright girls who exhibited a tendency toward negative attributions and defensive withdrawal strategies.

Dweck, C.S., and B.G. Licht. "Learned Helplessness and Intellectual Achievement." Human Helplessness: Theory and Applications. Ed. Judy Garber and Martin E.P. Seligman. New York: Academic Press, Inc., 1980.

Children identified as equal in standardized measures of intelligence and equal in ability on success tasks underwent dramatic changes when confronted with failure. Although mastery-oriented children seemed challenged by failure when it occurred and responded with increased persistence and more sophisticated problem-solving strategies, other children's behaviors deteriorated with lowered persistence, use of minimal strategies, and strong negative affect. The researchers speculated differences occurred because individuals attributed different causes for their successes and failures. Dweck and Licht examined some of the causes and consequences of these cognitions and speculated how both types of children would respond to different academic achievement tasks. Moreover, the authors proposed an interesting analysis of characteristics of verbal and mathematical areas which seemed to elicit self-debilitating and/or self-enhancing behaviors in males and females, as well as in helpless and mastery-oriented within each sex. Each area was tested along the following dimensions: acquisition of new concepts, relationship of new learning to prior learnings, objectivity of criteria; nonintellectual aspects of performance; and flexibility of strategy use. Given the characteristics of mathematics along with the different achievement orientations, they concluded mathematics and helplessness were at variance.

Dweck, C.S., and N.D. Reppucci. Learned helplessness and reinforcement responsbility in children. Journal of Personality and Social Psychology, 1973, 25, 109-116.

Dweck and Reppucci replicated the Seligman et al. (1968) studies reproducing helplessness in an achievement situation in which failure was unavoidable. Forty fifth grade children worked on a series of tasks. Success outcomes were assured in the presence of one experimenter while continued failure was experienced only in the presence of a second experimenter. Trials were randomly interspersed between both adults. At a specified point the failure experimenter presented soluble problems, yet a number of children continued to fail these soluble problems even though they were almost identical to ones with which they had previously been successful. The results established that children of equal ability and motivation to succeed responded differently to failure. Some persisted while others' performances deteriorated. As predicted, children in this latter group explained their failure with external factors and revealed a sense of "helplessness" in that they perceived no connection between their behavior and outcomes. In fact, they acted as if they had little control or personal responsibility for the outcomes. These same children attributed success and failure to the presence or absence of ability. Conversely, the subjects who persisted in the failure situations attributed expenditure of effort as influencing outcomes; moreover, male subjects relied on effort ascriptions more than female participants did. The authors recommended strategies of behavior change, such as transfer of expectancies and attribution retraining.

Dweck, C.S., and C.B. Wortman. "Learned Helplessness, Anxiety, and Achievement Motivation: Neglected Parallels in Cognitive, Affective, and Coping Responses." Achievement, Stress, and Anxiety. Ed. Heinz W. Krohne and Lothar Laux. New York: Hemisphere Publishing Corp., 1982.

Dweck and Wortman examined three major research areas: achievement motivation, text anxiety, and learned helplessness. They reviewed theoretical and empirical work in each field, then considered their respective strengths and weaknesses, and finally from each distilled salient concerns in regard to adaptive and maladaptive behaviors. Their review of the evidence suggested that for the maladaptive responder failure had "self-evaluative meaning," whereas for the adaptive responder failure had "task-relevant information."

Nicholls, J.G. Development of perception of own attainment and causal attributions for success and failure in reading. Journal of Educational Psychology, 1979, 71(1), 94-99.

Children's causal explanations for successes and failures in school were examined. Nicholls acceded that older children had fairly accurate perceptions of their own attainments as they compared themselves to peers, and subsequently used that information from past performances for future attributions. On the other hand, younger children's interpretations were not as accurate and less predictable. Nicholls thereby examined the age differences in individuals' perceptions of their own attainments and the development of causal attributions for academic performances. Children aged six to twelve responded to questions concerning degree of self-awareness of their position in reading class. In addition, they specified causes for their successes and failures in reading tasks. Results verified that with increasing age individuals' perceptions of their levels of attainment directly correlated with their actual achievement levels and the subsequent attributions they made. In regard to sex differences, even though girls and their teachers highly rated their levels of attainment, girls more than the boys nonetheless tended to attribute failure to lower ability. The author suggested teacher feedback might provide an explanation for such negative and contradictory attributions.

Nicholls, J.G. "Conceptions of Ability and Achievement Motivation: A Theory and Its Implications for Education." Learning and Motivation in the Classroom. Ed. S.G. Paris, G.M. Olson, and H.W. Stevenson. Hillsdale, N.J.: Lawrence Erlbaum Associates, 1983.

Nicholls contrasted ego-involvement with task-involvement considering their different foci on ability. In the former, students concentrated on themselves to ensure they looked smart and not incompetent compared with others. Whereas in the latter condition, students were more directed to learning tasks and devising strategies to solve problems. Evidence supported the fact that children who perceived their ability as low compared with others did not learn when ego-involved, for their learning was impaired. Previous studies had shown that such individuals performed better when task-involved. However, students with high perceived ability displayed no performance differences in task-or-ego-involvement. While task-involvement fostered realistic goal setting and challenging learning, ego-involvement caused unrealistic goal setting and maladaptive responses. Nicholls cited studies which verified that students who doubted their own abilities were reluctant to seek teacher assistance, for it exposed their incompetencies. According to the author, the real challenge for effective teachers was to ensure that students sustained task-involvement which would deflect attention from extrinsic concerns and comparisons between themselves and their peers. He discussed and recommended further research into factors that would sustain students' task-involvement.

ACHIEVEMENT GOALS AND ACHIEVEMENT BEHAVIOR: EDUCATIONAL IMPLICATIONS AND CLASSROOM INTERVENTIONS

Ames, C. Achievement attributions and self-instructions under competitive and individualistic goal structures. Journal of Educational Psychology, 1984(a), 76(3), 478-487.

The purpose of this study was to determine the existing relationships among competitive and individualistic goals structures, students' achievement attributions, and their affective responses. Fifth and sixth grade students (N=88) were randomly assigned to competitive or individualistic classrooms and were tested on novel puzzle tasks either individually or in pairs depending on the structure. In the interval between the second and third testing, subjects were asked to respond to 20 statements indicating ones that expressed what they were thinking. Results verified that different goal structures elicited different cognitive-motivational responses. Children in the competitive structure manifested more interest in ability attributions and were more concerned with judgments about their performances than those in the individual structure. However, children in the individual structure favored more positive effort attributions, and also relied more upon self-instructional strategies. Encouraged to improve upon their past performances in this setting, children veered toward a mastery orientation in which task involvement was high. Their concentration focused on accomplishing the task. Strong ability-affect connections predictive of future performances were also revealed.

Ames, C. "Competitive, Cooperative, and Individualistic Goal Structures: A Cognitive-Motivational Analysis." Research on Motivation in Education: Student Motivation. Ed. Russell E. Ames and Carole Ames. Orlando, Florida: Academic Press, Inc., 1984(b). 1:177-207.

Ames considered the motivational processes affecting learning within cooperative, competitive, and individualistic structures. The author investigated different meanings of success and failure and their consequences for high and low achieving students within the different goal-reward structures. The research consistently demonstrated each of the structures differentially affected students' self-assessments and self-attributions, perceptions of individual differences, as well as teachers' evaluations. Three different motivational systems were matched with the goal structures, and Ames suggested that each system elicited different types of motivation. The competitive (egoistic) system encouraged children to focus on ability resulting in a strong self-focus. If individuals succeeded and won, they were able and motivated. However, if they failed, they were less able than their peers and were losers; consequently, their self-worth was threatened. Substantial evidence determined that failure in such a setting had more negative consequences for individuals' self-esteem than in non-competitive settings. Also documented was the fact that perceptions of equality were greater in cooperative than non-competitive situations. Within the cooperative (morality-based) system group outcomes had more value for the individual participants than did the structure itself. Findings indicated that individuals needed to fulfill their commitment to the group with the results that strong effort was linked to outcome. The individualistic (mastery) system elicited stronger task focus and effort attributions. Studies documented that this system provided opportunities for self-improvement over time, and students perceived greater control through their increased effort. In addition, data indicated that self-instructional (coping strategies) statements were used more often in the individualized structure. Hence, students not only tried but also thought about what they were doing.

Anderson, C.A., and Jennings, D.L. When experiences of failure promote expectations of success: The impact of attributing failure to ineffective strategies. Journal of Personality, 1980, 48(3), 393-407.

Anderson and Jennings suggested that the ability-effort model that evolved from achievement motivation research was limited. They agreed that attributing failure to effort (controllable factor) rather than ability (uncontrollable factor) would lead to greater success expectancies. However, they also explored the impact of strategy attributions along with effort attributions as determinants of success and failure. Accordingly, their experiment focused on whether individuals attributing their failures to ineffective strategies experienced greater expectations for success than those who attributed their failures to low abilities. Subjects (N=36) were asked to ascribe causal attributions to either ability or strategies in a task involving verbal persuasion with another student. Results indicated that strategy subjects expected significantly higher levels of success following failure than did the ability subjects. Moreover, strategy subjects anticipated more long-term success as well as rising improvement with practice. Likewise, they planned to continue self-monitoring their performances and used problem-solving techniques to alter their behavior so as to ensure eventual success. The authors speculated that the presence or absence of strategy attributions following failure was predictive of differences between helpless and nonhelpless.

Andrews, G.R. and Debus, R.L. Persistence and the causal perception of failure: Modifying cognitive attributions. Journal of Educational Psychology, 1978, 70(2), 154-166.

Andrews and Debus described a test and model for attribution retraining. They hypothesized that since causal attributions influenced behavior and expectancies to such a great degree, constructive interventions in those processes would result in substantial changes in the individuals' subsequent behaviors and choices of strategies. Their findings, in fact, strongly supported Dweck's (1975) model attribution retraining program. Moreover, their study confirmed that consistent, direct teaching and modeling caused appropriate attributions to replace achievement-inhibiting attributions through systematic reinforcement. Teaching children to attribute their failures to insufficient effort or lack of appropriate strategies was shown to create changes in their levels of persistence in future failure conditions. Ample evidence confirmed such persistence transferred to future tasks at longer time intervals. The authors recommended that the training procedure be adapted for remedial use in classrooms.

Bandura, A., and Schunk, D.H. Cultivating competence, self-efficacy, and intrinsic interest through proximal self-motivation. Journal of Personality and Social Psychology, 1981, 41(3), 586-598.

This study tested the notion that the proximal subgoals encouraged sustained involvement in activities and as a result caused self-efficacy and interest to flourish. Children (N=40) ranging in ages from seven to ten years qualified for this experiment only if they were strongly deficient in mathematical skills and expressed high disinterest in math activities. For several sessions they participated in self-directed learning under conditions involving proximal subgoals, distal goals, or no references to any goals. Results disclosed that children who set attainable subgoals for themselves progressed rapidly in the self-directed learning units and gained mastery of the material. The study also determined that interest in the activities themselves changed from low to high. Proximal goals were shown to be motivating, and children's self-appraisals were more accurate under that same condition. When children attained their goals, interest increased. Although children in the distal and no-goal conditions learned mathematical material and were able to make applications, no appreciable growth in self-knowledge of capabilities was evident. Hence, skills were acquired, but no interest had developed. The authors suggested that within the distal goal condition when performance was gauged against distant, unattainable future standards, self-satisfaction remained low. The authors examined the relationship between perceived self-efficacy and intrinsic interest and found that children mainly in the proximally self-motivated condition continued to express interest in their tasks and didn't resort to inferences of self-doubt concerning their performances and capabilities. They, therefore, concluded a link existed between sustained interest in challenging activities and perceived self-efficacy.

Brophy, J.E., "Fostering Student Learning and Motivation in the Elementary School Classroom." Learning and Motivation in the Classroom. Ed. S.G. Paris, G.M. Olson, and H.W. Stevenson. Hillsdale, N.J.: Lawrence Erlbaum Associates, 1983.

Studies on teacher behavior and student learning were reviewed. The evidence indicated that effective teachers ensured students' progress through direct instruction, selection of tasks and material at appropriate levels of difficulty, and consistent monitoring of independent work. Brophy also presented guidelines for teachers' use of effective and ineffective praise and discussed methods to build intrinsic, continuing motivation.

Brophy, J. "Teachers' Expectations, Motives, and Goals for Working with Problem Students." Research on Motivation in Education: The Classroom Milieu. Ed. Russell E. Ames and Carole Ames. Orlando, Florida: Academic Press, Inc., 1984. 2:175-214.

This study examined how teachers' beliefs, attitudes, and expectations directed, controlled and influenced interactions with students in general, and problem students in particular. The author reviewed past research on teachers' expectations effects on students' performances, attitudes, and motivation and then additionally presented several process models that were hypothesized to mediate such effects. Supplemented by attribution theory concepts and concept of problem ownership (teacher-owned, student-owned, or combination of both), Brophy analyzed teachers' responses to the social behavior and conduct of problem students. Data were taken from the Classroom Strategy Study designed to develop information of effective strategies for teachers working with students exhibiting dibilitating behaviors. Interesting results emerged concerning the differences in teachers' self-perceptions of their roles as "instructors" or "socializers" and the subsequent effects on classroom maintenance and climate. Although neither of the groups was reported to be more effective in dealing with problem students, the findings reiterated that teachers' role-definitions, attributions, and specific motives for dealing with problem students definitely contributed to types of responses and affected students' behavioral outcomes.

Cooper, H.M., and Tom, D.Y.H. Teacher expectation research: A review with implications for classroom instruction. The Elementary School Journal, 1984, 85(1), 77-89.

Cooper and Tom analyzed the cumulative research literature on teacher expectations and student performance fueled by Rosenthal and Jacobson's study, Pygmalion in the Classroom. Immediately ascertained was the existence of expectation effects, though it was admitted they did not occur in every situation. They found that less structured subject matter (e.g., reading) and personal latitude in instructional style affected this "bidirectional" relationship in which teachers and students mutually influenced each other's expectations and performances.

Teacher performance expectations categories were summarized in a schemata (socioemotional climate, verbal inputs, verbal outputs, and affective feedback)designed by Rosenthal (1974). Pertinent findings included several research backed assertions. Teachers tended to create warmer, more supportive, and friendlier environments for brighter students. In terms of teachers' verbal inputs to students, evidence was presented that showed students perceived as lower received less difficult and less novel material. Verbal outputs research indicated that high expectation students were given more response time, clues, and rephrasing for questions than low expectation students. Teachers invariably gave up faster on slow students. Various studies reported different conclusions in respect to teacher and high/low student contact. Consistent results, though, were reported for teachers' use of praise and criticism. High's received more frequent, positive responses while low's experienced more negative feedback. Thus, prior student successes were presented as having a powerful effect on teachers' responses. A model was presented to help teachers identify the presence of negative expectation effects in their own classrooms and to redirect their expectations to benefit, not hamper, their students' cognitive and affective growth. The research suggested that some teachers (possibly those more dogmatic, less tolerant of ambiguity) needed to maintain control over interaction with low's (content, timing, duration), so failed to praise for effort resulting in negative student affect.

Covington, M.V. "Motivated Cognitions." Learning and Motivation in the Classroom. Ed. S.G. Paris, G.M. Olson, and H.W. Stevenson. Hillsdale, N.J.: Lawrence Erlbaum Associates, 1983.

The phrase "motivated cognitions" described the complex interrelationship between cognitive and motivational factors that influenced achievement behavior. The author reviewed fear of failure dynamics, defensive motivation, and cognitive attribution theory within the context of self-worth theory and its research. Further elaborated was a strategic, self-management approach to achievement which specified strategies in which students could be trained. The advantages to be gained from such self-monitoring were the students' growing sense of personal power and control over their learning as well as a realistic understanding of their limitations.

Covington, M.V., "Strategic Thinking and the Fear of Failure." Thinking and Learning Skills: Relating Instruction to Research. Ed. J.W. Segal, S.F. Chipman, and R. Glaser. Hillsdale, N.J.: Lawrence Erlbaum Associates, 1985. 1:389-416.

Covington acknowledged that the very nature of many competitive classroom structures necessitated that students be more concerned with avoiding failure than with pursuing success. To combat self-defeating defense strategies students required training in self-management skills. Specific methods were recommended to expand reward systems within the classroom so that students of all ability levels could expect to succeed. The author reviewed research which suggested that competitive structures needed to be replaced by individualistic structures so that students performed up to their actual levels of ability and competed against their own, not others', standards of achievement. Covington further enumerated thinking skills that fostered students' ongoing interest in learning and defined components of strategic thinking, such as problem formulation, strategy selection, and self-monitoring . Recent research had confirmed students lacked resources in thinking skills strategies, and the author consequently affirmed the need to train students in strategic thinking and self-monitoring so as to ensure they become more efficient in coping with school learning tasks.

Dweck, C.S., and J. Bempechat. "Children's Theories of Intelligence: Consequences for Learning." Learning and Motivation in the Classroom. Ed. S.G. Paris, G.M. Olson, and H.W. Stevenson. Hillsdale, N.J.: Lawrence Erlbaum Associates, 1983.

A consideration of patterns which emerged from previous research led Dweck and Bempechat to focus on children's different theories of intelligence. They observed groups of children identified as equal in ability (assessed by standardized measures of intelligence, achievement tests, or previous task performances). These children received identical problems and experienced successes on a certain number of tasks, yet when confronted with failure situations divisive patterns began to develop as some of the group chose facilitating behaviors while others espoused debilitating behaviors. The evidence suggested both groups not only responded differently to the same situation but also made use (or sense) of the situation in alternative ways. They speculated, therefore, that the fact that children structured the same situation in dissimilar ways related to different views of intelligence or personal ideas about their competencies. The authors thus proposed that children built their beliefs, cognitions, affects, and behaviors around one of two theories depending upon the performance situation. Children that followed an "entity" theory believed that intelligence was a fixed trait, and their competencies were recognized through performances which accordingly would be judged. On the other hand, children who endorsed an "incremental" theory believed that through their own efforts and actions they had power and abilities to increase not only their skills and knowledge but also their "smartness". They presented research evidence which demonstrated the direct relationship among theories of intelligence, choices of achievement goals (performance versus learning), and achievement patterns (helpless versus master-oriented). Furthermore, they conjectured that teachers themselves had implicit theories of intelligence that directly affected classroom and evaluative practices, as well as children's beliefs about their abilities.

Dweck, C.S., and E.S. Elliott. "Achievement Motivation." Socialization Personality, and Social Development. Ed. E.M. Hetherington. New York: Wiley, 1983.

Dweck and Elliott pursued questions for a developmental theory of achievement motivation. They reviewed past theoretical approaches to achievement motivation that had been influential for the past thirty years: need achievement theory, test anxiety theory, social learning theory, and attribution/learned helplessness theory. The authors outlined their work around two general theories of intelligence (entity and incremental) which children tended to adopt and which the research suggested oriented them toward specific goal choices (learning versus performance). Goal choices led them to structure their analyses and conceptions of achievement situations accordingly. They also discussed expectancy formation and research which verified that able individuals were not always necessarily confident (especially true for bright girls). They speculated causes for some children's avoidance of performance tasks which they were actually capable of handling. Adaptive patterns that facilitated learning and performance and maladaptive patterns which caused impaired learning were explored in detail.

Fowler, J.W., and Peterson, P.L. Increasing reading persistence and altering attributional style of learned helpless children. Journal of Educational Psychology, 1981, 73(2), 251-260.

Fowler and Peterson's study confirmed that practice and failure items (multiple failure length/partial reinforcement) increased persistence. When attribution retraining accompanied this procedure, greater gains were evidenced. Even though self-instructional modeling responses did not significantly add to increased persistence, subjective evidence indicated that children in direct attribution retraining groups benefited the most. The data supported teaching children to verbalize self-reports as a means of altering their attributional styles.

Meyer, W.U. Indirect communication about perceived ability estimates. Journal of Educational Psychology, 1982, 74(6), 888-897.

Teachers as evaluators transmitted indirect communication about learners' abilities via praise or blame, easy or difficult assignments, and expressed pity or anger. Meyer speculated that this information (inferred opinion of others) influenced the learners' self-perceptions of abilities along with their future expectations for success and subsequent performances. The author focused on how this inferred information acted as cues revealing the teacher's estimates of students' abilities. The research strongly suggested that praise and blame, while dependent on teacher familiarity with the subjects and their effort ascriptions, reflected to a great degree how the evaluator estimated the students' abilities. In addition, the author analyzed a study by Conty (1980) which concluded that unsolicited help led subjects to infer low ability with resulting negative affects, such as worry and incompetence. On the other hand, subjects who had been neglected reported positive esteem-related emotions which seemed to indicate their inferences of high ability. Thus, Meyer concluded contradictions existed: under certain conditions positive feedback elicited feelings of low competence; conversely, negative feedback sometimes resulted in feelings of high competence.

Meyer, W.U., Bachmann, M., Biermann, U., Hemplemann, M., Ploger, F.O., and Spiller, H. The informational value of evaluative behavior: Influences of praise and blame on perceptions of ability. Journal of Educational Psychology, 1979, 71(2), 259-268.

Meyer and colleagues investigated the effects of information from praise and blame on other-perceptions of own ability as well as self-perceptions of ability. The authors assumed that in various situations individuals who were praised or blamed for their performances sought feedback from the evaluators about their actual estimates of the learners' abilities. Furthermore, they hypothesized that other-perceptions of own ability affected self-perceptions and consequently modified existing behaviors. Six experiments were conducted. Subjects were given a questionnaire containing information about two students who had identical results with a given task. However, one of the students was provided with neutral feedback, while the other person was either praised or criticized. Subjects then indicated the teacher's estimate of ability or effort of each student. Results clearly showed that the evaluator's use of praise and blame gave students information about their own abilities. Low ability was perceived in easy task situations in which praise followed success or in which neutral reactions emanated from failure. On the other hand, in difficult task situations neutral reactions after success and criticism after failure implied high ability. These data raised significant questions about traditional points of view concerning the motivational effects of praise and blame. Paradoxically, praise was discovered under certain conditions to lead to low expectations of success at difficult tasks with deceased persistence, whereas criticism had the opposite effects.

Nicholls, J.G. "Conceptions of Ability and Achievement Motivation." Research on Motivation in Education: Student Motivation. Ed. Russell E. Ames and Carole Ames. Orlando, Florida: Academic Press, Inc., 1984. 1:39-73.

Nicholls argued that various achievement theorists had different understandings of ability. Likewise, he suggested that individuals relied upon different conceptions of ability depending on the situation. The author documented studies which showed that ego-involved tasks relied upon social comparisons (e.g., "How do I exhibit superior capacity in relation to my peer group?") Competition and public self-awareness tended to foster ego-involvement with the result that intrinsic interest in learning for the sake of learning was nonexistent. Research confirmed that individuals with low perceived ability chose easy tasks with little effort, and ego-involved students avoided moderate tasks and realistic challenges. Nicholls noted that students of perceived low ability did not perform well in ego-involved conditions but fared better in task-involved situations. He concluded that from an educational perspective task-involvement was preferred, for as children matured and perceived low ability in ego-involving situations their performances deteriorated. Hence, their self-esteem became seriously threatened with their childhood conceptions of high effort/high ability correlations no longer certain. A strong case was made for reassessment and research of classroom practices and methods that fostered task-involvement.

Schunk, D.H. Effects of effort attributional feedback on children's perceived self-efficacy and achievement. Journal of Educational Psychology, 1982, 74(4), 548-556.

The effects of effort attributional feedback on children's sense of efficacy and achievement were examined in this study. Children (N=40) ages seven to ten years who lacked subtraction skills worked on instructional units under four conditions. One group was periodically monitored and told their past progress indicated they had been working hard. A second group was told that to improve their future achievement they needed to work harder. A third group was monitored but received no attributional feedback. A fourth group was not monitored but continued the same instructional work as the others. Schunk hypothesized that the effort feedback for past achievement would reinforce their sense of progress and reemphasized the fact that they could continue to achieve through effort. On the other hand, future feedback would discourage children, for they would possibly believe that their current performances were inadequate, and that even though they had made progress additional future effort was not going to make that much difference. Results indicated that effort attributions focused on past achievement increased children's tasks involvement, persistence, skill development, and perceived self-efficacy. Information about past effort in the training process seemed to validate the students' sense of progress. Conversely, feedback related to future achievement was ambiguous and encouraged students to infer low ability. Judgments about self-efficacy were higher in the past attribution group, for children appeared more confident of their abilities. The author discussed these findings in the relationship to self-worth theory and its respective research.

SUMMARY

DYNAMICS OF FAILURE-AVOIDANCE

From a self-worth perspective, research documented that individuals chose failure-avoidance behaviors to protect and defend their sense of self-esteem (Covington, 1984a, 1984b; Covington & Beery, 1976; Covington & Omelich, 1985). A threatened sense of self-worth elicited self-defeating tactics which Beery (1975) described as a "fear of failure" (p. 200). He suggested that failure-avoidance strategies, such as procrastination, underachievement, inappropriate goal setting, and apathy functioned to shift the focus away from students' limited abilities to other less threatening, external causes (p. 200). Likewise, Covington (1984a) argued that students' unwillingness to work or to do as little as possible, their inattention, and chronic truancies were self-protective strategies that attributed failure to low effort and causal factors beyond their control. Similarly, failure in such circumstances provided meager information about actual academic ability; in fact, an ambiguity concerning ability had been established (1984b, p. 12). Moreover, Beery (1975) maintained that these self-serving strategies enabled students to continue functioning with the internal belief that their ability was high, and that despite failure they were capable individuals (p. 200).

Although ability perceptions were established as critical to a sense of self-worth, research evidence (Covington & Omelich, 1984; Covington, Spratt, & Omelich, 1980; Nicholls, 1976) determined that effort and excuses also played a significant role in protecting a sense of competency. Covington and Omelich (1979b) verified that effort expenditure in failure situations was threatening since failure accompanied by high effort implied low ability. Their study

documented that students experienced greatest shame under conditions of high effort and least shame under low effort. Shame was reduced though if students had excuses, for such failure-avoidant tactics redirected causes for failure; consequently, low-ability inferences were kept uncertain (p. 170).

These findings led the authors to characterize effort in the classroom as a "double-edged sword" which placed students in a precarious situation p. 170). Since teachers rewarded students who tried and punished students who did not, students ran the risk of revealing incompetencies if they worked hard yet still failed (p. 170; Covington, 1984b; Covington et al., 1980). As a result, available excuses provided reasons for failure and sidetracked inferences to low ability. Hence, failure was robbed of its threat by external reasons, and ability was protected. However, students without excuses in failure situations experienced the most shame even though punished least by teachers (Covington, 1984b). On the other hand, low effort which caused students least personal dissatisfaction invited greatest teacher punishment (Covington, 1984a). The data, therefore, suggested that "excuses operate to maintain a psychological balance between trying and not trying" (p. 89).

In a companion study to determine self-worth dynamics in a successful situation, Covington and Omelich (1979c) determined that effort expenditure maximized pride and internal self-praise. Since teachers were expected to reward achievement as well as hard work, students would be considered competent and also diligent (p. 689).

A change in the ability-effort relationship was demonstrated by Harari and Covington (1981) who found young children conceptualized ability-effort as a working unit which enabled them to increase their knowledge and skills. However, a real separation occurred by the time students were in high school.

Then ability alone was acknowledged as the crucial factor for success (pp. 16; 26), and consequently study or hard work followed by failure indicated incompetency. So they (students) concluded it was better not to study so as to minimize any negative suspicions (p. 26). As a result, older students avoided implications of trying hard and valued low-effort in academic situations (Covington, 1984b; Covington & Omelich, 1985, p. 447).

Covington and Omelich (1984) described a "coping and defending continuum" in which students started out seeking successes, but through failure experiences became uncertain of their ability. They then adopted self-defeating strategies to avoid the implications of failure and to "evade incompetency-linked aspects of failure by not trying or having excuses for why trying was futile" (p. 164). The authors (1984, 1985) identified another subsequent stage, failure-acceptance. Faced with repeated failures over a period of time, along with a dwindling supply of available excuses, students were forced to acknowledge to themselves their lack of ability. Successes now were attributed to luck, easy tasks, or teacher assistance (p. 448). Negative affect (humiliation/shame/hopelessness) as a result increased, whereas expectations for change in failure patterns decreased (Covington & Omelich, 1981, p. 806). Thus, students moved into a failure-accepting mode. The data showed repeated failures caused a progressive demoralization evidenced in the shift from "Why try when trying doesn't work?" to "Trying doesn't work because I lack ability" (p. 797).

DYNAMICS OF FAILURE-ACCEPTANCE

Learned helpless students believed that they had no control over outcomes and then generalized that belief to situations in which they actually did have

control (Abramson, Seligman & Teasdale, 1978; Dweck & Wortman, 1982). Dweck and her associates (1973, 1975, 1978, 1980) asked why individuals who performed similarly in success situations responded so differently when failure or obstacles were introduced. They speculated that it was the underlying reasoning processes in which individuals assessed the causes for their failure (ability or effort) and whether they believed they controlled the outcomes of their actions. (Did it make a difference whether or not they tried, or would the consequences remain the same regardless of effort?)

When Dweck and Reppucci (1973) analyzed the differences between nonpersistent and persistent children, they found deterioration depended upon individuals' attributions for failure. Nonpersistent (helpless) children determined that failure was unavoidable because they lacked ability, whereas persistent children felt failure could be reversed if they tried harder p. 110). Dweck (1975) convincingly demonstrated that helpless children could be retrained to respond to failure as a cue to change strategies or to begin self-conversations that monitored them through the problems (p. 675). They were taught, therefore, to perceive failure as a situation within their control which they could personally alter.

Contrary to popular belief, Diener and Dweck's (1978, 1980) evidence proved that high-achievers, as well as low-achievers, attributed failures to lack of ability, and their performances consequently deteriorated. In fact, students' high abilities did not predict future confidence nor expected success. Thus, they concluded mastery-oriented and helpless differed not only in their attributions for successes and failures, but also in their use of sophisticated or debilitated problem-solving strategies, as well as sustained or interrupted levels of concentration.

In the 1980 study in which subjects verbalized their thoughts during

problem-solving tasks, another significant difference emerged. As soon as obstacles were introduced, helpless children acted as if they had never experienced previous successes (though, in fact, they had just minutes before). Thus, past successes were discounted, and the failure information became salient (pp. 950-951). Success, it seemed, did not indicate competency for the helpless children, nor would they rely on past positive outcomes to predict future performances (p. 950). An even bleaker picture emerged in failure conditions; helpless expressed more self-destructive statements and were more pessimistic about future performances than they had been before. When asked to report how many problems they had gotten wrong, helpless children over-estimated by one-half, and they had underestimated correct problems p. 951). Conversely, mastery-oriented children continued to believe their successes reflected competency, appeared indifferent to failure, and concentrated on the task and problem-solving. Their assessments were found to remain consistently accurate (p. 941). The data suggested that effective strategies were maintained and disruption avoided because the mastery-oriented children focused on the learning and not on themselves.

Having observed the differences between both groups, Dweck and Wortman (1982) decided failure presented "self-evaluative meaning" (self-focus) to maladaptive performers and "task-relevant information" (task-focus) to adaptive reponders (p. 116). They cited a number of researchers on anxiety who had found focus of attention to be a significant factor underlying processes of deteriorating performances. Nicholls (1983) made similar distinctions. Dweck and Wortman (1982) summarized their findings by suggesting that

> ...the helpless children not only view their failures as indicative of incompetence and unsurmountable but also view their successes as irrelevant to their competence and unreplicable. The mastery-oriented take

> success as a sign of intelligence, believe that it will continue, and see no reason to revise this point of view in the face of obstacles. (p. 108)

Hence, maladaptive performers appeared to discount evidences of successes while attending to failure evidence that reflected inability (p. 115). Also, high achievers' awareness of successful past performances provided no guarantees that the individuals would use that information to build confidence and adaptively respond to difficulties in the learning situation (Nicholls, 1979).

ACHIEVEMENT GOALS AND ACHIEVEMENT BEHAVIOR

Adaptive ("mastery-oriented") and maladaptive ("helpless") patterns of achievement behavior were documented by Dweck and Bempechat (1983). Seeming contradictions had emerged in the studies: capable children were often found to show impaired responses (negative affect, distraction, eventual withdrawal) in the face of challenges; however, another group of children (capable and also less proficient) manipulated the challenge situations to facilitate their learning (p. 239). The researchers asked what caused these different responses, if not ability, and then speculated that each group conceptualized achievement situations around certain individual beliefs.

The underpinnings for the research demonstrating the relationship between achievement goals and achievement behavior were provided by Dweck and Elliott (1983). They proposed a model of children's views of intelligence. They suggested children held two beliefs about intelligence which could be held independently or simultaneously depending upon the achievement situation.

According to their model, incremental theorists viewed intelligence as capable of changing, as a repertoire of skills expandable through effort. However, entity theorists believed intelligence was stable, a fixed trait, and sought favorable judgments of their competencies (Dweck & Elliott, 1983, see Table p. 655). While incremental theorists chose learning goals ("becoming smarter") to increase their skills, entity theorists sought performance goals ("looking smart") to gain positive evaluations (Dweck & Bempechat, 1983, p. 245). Dweck and Elliott (1983) documented cognitive and affective behaviors of children in difficult problem-solving situations which involved repeated failures. Incremental theorists did not emphasize failure but focused on refining their strategies. On the other hand, entity theorists low in confidence developed helpless patterns, inasmuch as they sought to escape from the situation, chose fewer effective working strategies, and actually increased their use of ineffectual strategies.

These conceptualizations which resulted from their research were summarized by Dweck (1986) in a model which illustrated that children's beliefs about intelligence predicted different goal orientations which, in fact, set in motion adaptive or maladaptive behavior patterns (p. 1041). Dweck and Elliott (1983) and Nicholls (1984) compared learning and performance goals. They concluded that learning goals encouraged students to become task-involved, to gain mastery through effort, and to increase their competencies. Performance goals, on the other hand, tended to induce students' ego-involvement so that their concerns centered around receiving positive judgments of their competencies and avoiding negative evaluations. Moreover, their research showed that students who espoused performance goals had to be certain of high ability before they chose challenging tasks, for they couldn't chance a negative judgment. Nicholls (1984) too found that individuals with low ability

perceptions avoided moderate difficulty levels as well as "realistic" challenges, and if task completion was required they performed their worst p. 49). In other words, for performance oriented students of perceived low ability only very easy (ensured success) or extremely difficult tasks (external cause for failure) were viable options. Covington (1983) also documented that students with performance goals needed to look smart and veered away from any challenging tasks that evoked uncertainty. With learning goals though, students regardless of low or high ability self-assessments, chose tasks in which they acquired skills or knowledge. They asked, "How do I master this task?" instead of "What do I have to do to show superior capacity?" (Nicholls, 1984, p. 42).

Within a performance goals framework, therefore, confidence in ability needed to remain high or students withdrew from the work. Ames (1984a) also found that any failure or errors created a negative self-evaluation. In addition, Anderson and Jennings (1980) determined that students who attributed their failures to low abilities expected continued failure. They didn't seem to be able to learn from the failure experiences nor understand what features they could change, so as a result they concluded they couldn't improve their performances (p. 403). In contrast, students with learning goals used the obstacles to devise strategies to improve their performances (Ames, 1984a, 1984b; Nicholls, 1984). Bandura and Schunk's (1981) research disclosed that students who determined their own preferred levels of proficiency sustained involvement in the task until their "internal standards" were reached (p. 586).

Dweck (1986) concluded performance goals tended to focus children on issues of ability with the results that they were inclined not to entertain challenging tasks nor persist in activities when success outcomes weren't certain. "Ironically, then," she stated, "an overconcern with ability may lead children to shun the very tasks that foster its growth" (p. 1043). In

contrast, learning goals emphasized effort which children perceived was needed to help them to solve problems, increase their knowledge, and bolster their competencies.

EDUCATIONAL IMPLICATIONS

According to Dweck and Bempechat (1983), not only did children hold certain beliefs about intelligence but teachers also had their own "implicit" theories which affected their choices of classroom activities, verbal and nonverbal feedback, as well as evaluative responses. As a result, reexamination of two currently held educational practices was considered worthwhile: (1) frequent praise and success encouraged growth in students' confidence and improved performances; and (2) high teacher expectations made low-ability children feel as if they were successfully operating like high-ability children by giving them the "illusion of intelligence" (Dweck, 1986, p. 1045). They proposed that a teacher influenced by the entity theory provided successful work experiences for the students with minimal errors and maximum encouragement. The beliefs underlying these practices were that increased success led students to think of themselves as more capable. However, Dweck and Bempechat (1983) indicated that such practices could in effect, contrary to teachers' intentions, "render children more vulnerable to maladaptive patterns" (p. 252). Motivational research (Andrews & Debus, 1978; Bandura & Schunk 1981; and Schunk, 1982) established that success on easy tasks did not ensure student task-involvement, nor would it produce more stable confidence in ability nor defuse the future threat of failure. Encouraging children to feel smart ("programmed success") without providing them with effective strategies to use in failure situations placed them at a disadvantage (Covington, 1983; Dweck & Bempechat, 1983, pp. 252-253).

Moreover, Meyers et al. (1979) demonstrated the paradoxical effects of praise and blame. Under certain conditions evaluator's praise elicited students' low expectations for success on difficult tasks; decreased interest and low task-involvement were also evident. Criticism, however, resulted in the very opposite effects (p. 268). Meyer (1982) offered evidence to suggest praise acted as a subtle cue to individuals that their ability was low, especially in conditions of easy success. Praise and blame accordingly gave information to the recipients concerning others' ability estimates. The author also suggested that unsolicited teachers' help contributed to "more negative and to less positive esteem-related emotions than getting no help" (p. 893). As a result, positive feedback didn't necessarily produce feelings of increased confidence, nor could negative feedback be consistently interpreted as devaluing the individual (p. 895). Yet Cooper's (1984) data showed that students perceived as low-level received less difficult work and also experienced more negative teacher feedback which resulted in lowered confidence and self-esteem.

Classroom practices that fostered adaptive motivational patterns were found to be structured more closely within the context of learning-oriented goals rather than performance-oriented goals though Dweck and Bempechat (1983) noted some exceptions. Ames' (1984a) research indicated that individualistic more than competitive structures encouraged self-challenging activities, reliance on problem-solving strategies, and focus on the task itself--all behaviors characterized as mastery-oriented (p. 479).

Moreover, Dweck (1985) emphasized that a learning-goal orientation ensured that students expected errors and failures as built-in factors of the learning process (p. 294). Thus, Covington (1983, 1985) concluded students needed to be directly taught strategic problem solving. Andrews and Debus' (1978) study confirmed that teaching children to attribute their failures to insufficient effort along with

appropriate strategies' modeling enabled them to increase their levels of persistence. High persistence was found to transfer to future tasks for longer time intervals. Schunk (1982) also showed that effort feedback (statements which told students their past achievements indicated that they had worked hard) affected skill development, persistence, task-involvement, and perceived self-efficacy. Similarly, Fowler and Peterson (1981) confirmed students' practice with failure items increased task persistence, and verbal self-reports provided a repertoire of instructional strategies for future problem-solving. They pointed out that "errorless" learning situations (e.g., programmed instructions) limited students' progress, for they were not taught how to use failure to their own learning advantage (p. 259). Therefore, within a learning goal framework, failure furnished additional information about the task and signaled a need for new solutions, not negative self-evaluations.

CONCLUSIONS

The research indicated that failure in achievement situations gave students different information about either themselves or their learning tasks. How they perceived and processed that failure information predicted whether they would adopt adaptive or maladaptive behavior patterns (Dweck, 1986). Students low in confidence who chose "self-evaluative" information exhibited helpless behavior. Diener and Dweck (1980) indicated these students were self-critical, worried about others' public evaluations of their performances, sought escape from the situation, and were interested in exerting little effort. Failure information (errors or obstacles) indicated inability; thus, to protect self-worth, they assumed defensive strategies (Covington & Beery, 1976). According to Dweck and Wortman (1982), success information increasingly was blocked out; in fact; Diener and Dweck (1980) demonstrated even on success trials helpless children didn't see themselves as succeeding and only seemed to attend to devaluative feedback. As Dweck and Licht (1980) indicated, they exhibited a lack of control over both success and failure outcomes. Success wasn't replicable, and failure was insurmountable (Dweck & Wortman, 1982).

Students more confident of their ability who also chose "self-evaluative" information were concerned with "looking smart." As a result, they had to be certain they could outperform others in their group and tended to choose challenging tasks which highlighted their competencies. As Dweck (1986) pointed out though, these students too were in a precarious position. Any obstacles or confusion which forced possible negative judgments or inferences of low ability was threatening and caused withdrawal from the activity or use of defensive strategies.

However, other students who were mastery-oriented like the high confidence children, but also more persistent chose "task-relevant" information. Failure seemed to pull them out of themselves and into the task itself, for it signaled they needed to devise new strategies to solve their problems (Dweck & Wortman, 1982). Their concerns centered around "becoming smarter" or increasing their competencies through effort. These students seemed to thrive on challenges. According to Covington and Beery (1976), success for them was exceeding their own internal self-standards not competing against others' normative standards (cf. Ames, 1984b; Covington & Omelich, 1979c; Nicholls, 1984). Moreover, they relied upon effort, set realistic goals, persisted in their work, and controlled and monitored their learning assisted by effective strategies.

Covington (1984b), furthermore, suggested that in classrooms in which adaptive patterns were fostered teachers interpreted ability not as a static, fixed trait but as an "ever-improving capacity" (p. 17). Classroom practices and teacher interventions structured around "incremental" views sought to encourage learning goals. Ability as an expandable quality implied that individuals changed and increased their capacity to learn (Dweck & Bempechat, 1983, p. 244). Likewise, Ames (1984a, 1984b), Covington (1984a), and Nicholls (1984) concurred that students with learning goals concentrated on increasing skills and knowledge to attain self-prescribed goals. Performance evaluation, as well as learning concerns, coexisted in achievement situations. However, students within the learning goals framework expected that learning something novel necessarily included errors and obstacles (Dweck, 1975). As a result, strategies to deal with inevitable failure needed to be directly taught. Covington (1983) recommended self-management skills to increase independent learning.

Dweck (1975) demonstrated "programmed success" or errorless learning

caused greater debilitation when failure occurred. Hence, easy work or praise was documented to cause the opposite effects of teachers' original intentions since students interpreted teachers' estimates under such easy success conditions as indicating they lacked ability and couldn't overcome obstacles (Meyer, 1982; Meyer et al., 1979). If children were made to feel smart but were not taught strategies for overcoming obstacles or improving performances, future debilitation could be expected. Likewise, Covington (1985) illustrated that meaningless successes did not bolster self-image nor raise achievement. In fact, Covington and Omelich (1979b) clearly showed that success only instilled confidence if students were certain that they themselves had personally caused the positive outcome which they perceived as worthwhile and moderately risky.

Instead, research showed that teacher interventions and classroom procedures that effected more adaptive motivational patterns challenged students to persist over time to attain work goals of their own choosing. In addition, students were trained to attribute failures to faulty strategies or insufficient effort (Andrews & Debus, 1978; Bandura & Schunk, 1981; Fowler & Peterson, 1981; Schunk, 1982).

Contradictions also emerged that indicated success for some individuals was deceptive, whereas failure for others proved challenging and beneficial. What mattered was the causes to which students attributed success and failure outcomes. Moreover, failure was seen to serve the learning process, but only if students were encouraged to take risks and make mistakes with available strategies ready to provide direction.

From the self-worth perspective, therefore, it would seem that classroom objectives organized around learning goals' structures would encourage students to develop adaptive behavior patterns which affected how they acquired new

skills, assimilated concepts, and transferred learning to novel situations (Dweck, 1986, p. 1046). The research likewise suggested that within such a framework students would be able to work to potential. Moreover, they would be able to fail and exert effort without conflict. And most important they would be able to protect their sense of self-worth without threat.

Covington and Beery (1976) made a distinction between competency and talent: "not everyone is highly talented, but most are capable of attaining an adequate level of achievement" (p. 145). The research examined thus gave support to Gardner's (1961) assertion that we should strive to ensure that each person reached the level of his or her competency.

RECOMMENDATIONS

It is recommended that

1. Teachers instruct students to attribute the causes of their failures to lack of effort or inappropriate strategies instead of to inability.

2. Teachers model appropriate strategies for students to use in failure situations in which they confront obstacles or make mistakes.

3. Teachers model for students effective ways to organize their learning by dividing tasks into manageable subparts, to set realistic educational goals, and to analyze work assignments to determine difficulty level and proper strategies to reduce obstacles.

4. Teachers reassess the rationale and content of "programmed learning" materials that provide success on short, easy tasks, especially materials designed for low level students.

5. Teachers replace praise (focus on the individual) with encouragement (focus on students' own standards of success and failure, progress toward mastery, and the task itself).

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